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SHORTCOMINGS AT SOVIET MACHINE TOOL ENTERPRISES

MEETING OF MACHINE TOOL BUILDERS -- Moscow, Trud, 11 Jul 52

An all-union meeting of machine-tool builders opened in Moscow on 10 June.

Opening the meeting, A. I. Kostoyusov, Minister of Machine Tool Building, told about the tasks facing plants, design bureaus, and scientific research institutes of the ministry.

Speeches were given by Mardanyan, chief designer, and Charnko, chief technologist of the ministry, about the future work of design bureaus and the technology of production. Myamlin, chief of technical inspection of the ministry, gave a talk on the output of high-quality products and the organization of work of divisions of technical control at plants.

MUST AID DISORGANIZED REPAIR PLANT -- Moscow, Moskovskaya Pravda, 5 Jun 52

About a year ago the Klin Plant, a manufacturer of various types of attachments received a new assignment, to repair equipment. Hand grinders and forging presses, ordinary lathes and unique complex combination machine tools have been sent here for repair from all sections of the country.

Figures indicate that the enterprise is fulfilling the plan for gross and commodity production. However, its qualitative indexes are not so favorable. The reason that the production figures appear good is that the plant puts out unplanned products.

The plant is crowded with unfinished projects, last-minute speedups are prevalent, and the work is poorly planned, all of which contributes to a disorderly condition at the plant. The disorganization can be blamed for the most part on the lack of concern of the managerial personnel including Gruzdev, chief engineer, Vorob'yev, deputy director, and Cherevko, director.

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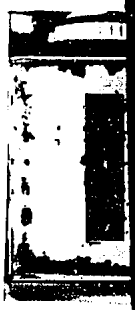

The plant undoubtedly needs aid from the Remmashtrest /Machinery and Repair Trust/ of the Ministry of Machine Tool Building USSR to which it is subordinate. It also could be relieved of some of its tasks, such as manufacturing radiators.

The Remmashtrest must take measures immediately to bring order to the Klin Plant, by helping its personnel to improve the organization of labor and working conditions, and to occupy a deserving place among enterprises of the Ministry of Machine Tool Building USSR.

STRESS NEED FOR POPULARIZATION OF ELECTRIC-SPARK METHODS -- Leningradskaya Pravda, 5 Jul 52

More than 10 years ago, Soviet engineers proposed a method of electric-spark metalworking which made it possible to process metals on simplified machine tools and thus decrease the need for cutting tools and abrasives. The electric spark method can be used in many operations where machining methods are impossible, such as piercing curvilinear holes.

However, this progressive method is being introduced very slowly at a number of enterprises. One reason is the shortage of competent personnel. It would seem that the Leningrad higher technical educational institutions would take this situation into account. However, USSR institutes, and in particular technical schools, are not training specialists in electric-spark metalworking.

Manufacturers suffer from an acute shortage of literature on electrical technology. The committee on electrical processing of LONITOMASh /Leningrad Branch of the Scientific Engineering-Technical Society of Machine Builders?/ is not giving this problem due attention. In the second quarter 1952, the committee has done virtually nothing about popularizing this progressive method. Workers at the Palace of Scientific and Technical Propaganda are also lax in their duties.

Meanwhile, there is an opportunity to publicize the work experience of Stakhanovites of enterprises where the electric-spark method of metalworking has been introduced successfully.

DEFECTS IN PLANT'S OPERATION -- Tbilisi, Zarya Vostoka, 5 Jul 52

The Tbilisi Machine Tool Building Plant imeni Kirov played a leading role in increasing the production of complex machine tools during the first 6 months of 1952.

The plant supplies the ferrous metallurgy and petroleum industries, transport, and the construction projects with its products. However, in operation, the plant has many serious shortcomings. In 1951, it did not put out the required number of types of machine tools, and permitted a total loss of 488,000 rubles because of rejects. The mistakes of 1951 must not be repeated. Much of the blame rests on the Tsentrolit Plant, which does not always supply the machine-tool builders with high-quality castings, and which fails to fulfill the plan.

OUTLINE REASONS FOR COUNTLESS REJECTS AT FOUNDRY -- Moscow, Moskovskaya Pravda, 25 Jun 52

In its technical equipment and volume of production, the cast iron foundry at the Moscow Grinding Machine Plant does not differ from foundries at other machine building plants in the capital. It has a mechanized sand conditioning

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department, several molding machines, an ordinary cupola furnace with mechanical charging, and adequate drying facilities. The foundry keeps up with its program and produces cast iron in required quantities more or less regularly.

Unfortunately, however, because assignments can be completed without special pressure, the foundry and plant managerial personnel are not giving sufficient attention to the quality of products and the fight against rejects. For this reason, losses due to rejects at the foundry comprise 80-90 percent of total losses at the enterprise.

Not only did the foundry fail to fulfill the task set by Glavstankoprom (Main Administration of Machine Tool Building Industry) for a decrease in rejects in 1951, but it increased the amount of inferior products put out.

In addition, the most detrimental types of rejects, those which appear only after a part has been machined, frequently during the final operation, are increasing rapidly. In February 1952, these types of rejects made up 3.9 percent of all castings produced, and in May, 5.1 percent.

The causes of rejects in castings are numerous, and for this reason there must be unconditional and strict adherence to prescribed technology. First of all, the technology must be carefully worked out and the control of all processes connected with the production of castings must be well organized. Although this is elementary and obvious, violation of this most important requirement for successful operation can be seen in the foundry at every step.

The Division of the Chief Technologist of the plant does not concern itself directly with castings production, and the foundry has only two technologists, who do not have sufficient time to develop on schedule even the technology for the manufacture of patterns. Careful checking of the quality of patterns is also lacking. Because of this, on many occasions finished molds have had to be broken because just before the metal was poured someone suddenly discovered that they had been made with the wrong pattern.

Such an incident occurred recently. Five castings for one part had been made. Machine shop No 3 had processed them completely. When the parts were to be assembled it was found that the pattern had been inverted. In other words, where projections should have been, recesses were made, and vice versa.

The manufacture of patterns is the first link in the process of castings production. As can be seen, this link at the Grinding Machine Plant is not sufficiently reliable. Castings wasted because they do not correspond to specified-design profiles make up 22 percent of all rejected castings, which is greater than at any other plant of the Ministry of Machine Tool Building.

From the above, the following conclusions can be drawn. Plant management must organize the production and check the quality of items in the pattern shop to assure that only unconditionally precise pattern sets are accepted for molding.

In addition, a procedure must be established whereby the shape of the first casting of series parts absolutely checks with a layout block. All defects discovered in this way must be noted in a book and only after all mistakes are corrected should the pattern set be used in series production.

However, the meeting of these requirements does not guarantee a high-quality mold. It is equally important to shape the pattern correctly, to make the mold carefully, and to install the well-manufactured core accurately. Unfortunately, each of these requirements has been disregarded frequently at the foundry.

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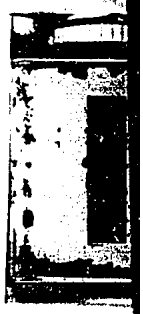

The chief and foremen of the foundry should pay special attention to the manufacture of cores because the quality of castings depends on their quality. The work in the core unit is slipshod, and only the surface of items is checked.

The basic fault in checking the quality of cores is that they are checked after drying rather than when they are still green. Because of this, only surface flaws can be detected. At the Stankolit Plant all cores are checked when green.

The quantity of faulty cores increases as a result of so-called gas cavities. This is the most frequent type of defect at all foundries, and at the Grinding Machine Plant it reaches a record quantity, comprising (in different months) from 44 to 63 percent of all faulty cast products.

Even if the mold box is well packed, the cores made perfectly, and the mold assembled faultlessly, this is not enough to produce high-quality castings. Molds must be filled with metal produced by a cupola furnace at a determined temperature (1,400,-1,420 degrees). This cannot be done at the Grinding Machine Plant because the foundry does not have a pyrometer.

To produce high-quality castings and reduce the quantity of rejects, it is absolutely necessary for each worker to be instructed thoroughly; the reasons for rejects must be analyzed carefully and means found for eliminating them; the plant trade union committee, plant party organization, etc., should participate more actively in this program.-- A. Gruzdev, engineer, Stalin Prize winner; S. Bakman, engineer; I. Lebedev, molder at Stankolit Plant; S. Gurov, correspondent, Moskovskaya Pravda.

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